

2. Method according to Claim 1, wherein the data for real-time applications is completely transmitted in the transmission process in a transmission cycle, and the time that remains until the next transmission cycle is calculated in order to then transmit data for non-real-time applications in the remaining time.

3. Method according to Claim 2, wherein the data is transmitted in the form of data packets and then, if the time remaining after the transmission of the data for real-time applications exceeds the time needed for transmitting a data packet for real-time applications [sic; non-real-time applications], the data packet is interim-stored and preferably transmitted in the next transmission cycle.

4. Method according to one of Claims 1-3, wherein data received in the reception process in a reception cycle is analyzed to determine which of the received data is data for real-time applications and which of the received data is data for non-real-time applications, and the received data for real-time applications is processed in the next real-time cycle.

5. Method according to Claim 4, wherein the received data for non-real-time applications is processed in a process independent of the real-time application.

6. Method according to one of Claims 1-5, wherein a parallel transmission, reception and processing of data for real-time applications and for non-real-time applications is carried out, and wherein, to process the data in a real-time cycle, the data received in a previous reception cycle is analyzed in a first step, the real-time applications are run in a second step and the pending data for real-time applications is transferred in a third step.

7. Method according to Claim 6, wherein the cycle period of the transmission cycle and the reception cycle corresponds to the real-time cycle and the transmission cycle is delayed with respect to the reception cycle by a constant time span that corresponds to the time duration for the first and second processing steps.

8. Interface unit for connection of a node to a communications network with several nodes are connected via communications paths, wherein the interface unit is designed for cyclical and deterministic transmission of data between the node and the communications network in order to treat real-time applications with priority over non-real-time applications, so that, in a transmission cycle, all data for real-time applications

is transferred first and then the data for non-real-time applications is transferred in the time that remains until the next cycle.

9. Interface unit according to Claim 8, with a transmitter for transferring data from the node to the communications network in order to transmit the data for real-time applications completely in a transmission cycle and to calculate the time that remains until the transmission cycle in order then to transmit the data for non-real-time applications in the remaining time.

10. Interface unit according to Claim 9, wherein the data is transmitted in the form of data packets and a buffer is provided in order, if the time remaining after the transmission of the data for real-time applications exceeds the transmission period needed for transmitting a data packet for non-real-time applications, to interim-store the data packet and preferably transmit it in the next transmission cycle.

11. Interface unit according to one of Claims 8-10 with a receiver for transferring data from the communications network to the node in order to analyze the data in the reception process in a reception cycle so as to determine which of the received data is data for real-time applications and which of the received data is data for non-real-time applications.

12. Interface unit according to Claim 11, wherein the received data for real-time applications and the received data for non-real-time applications is processed independently of one another.

13. Node with an interface unit according to one of Claims 8-12 and with a central processing unit in order to analyze, in a first step, the data received in a preceding reception cycled, to run the real-time applications with the received data for the real-time applications in a second step and to transfer the pending data for real-time applications in a third step.